

**Alaska Wilderness League • Conservation Lands Foundation •
Northern Alaska Environmental Center • The Wilderness Society¹**

Ms. Stephanie Rice, Project Lead
Bureau of Land Management
222 West 7th Avenue, Stop #13
Anchorage, Alaska 99513

29 September 2016

[Transmitted by e-mail to: blm_ak_gmt2_comments@blm.gov]

Re: Scoping comments for the Greater Mooses Tooth Two (GMT-2) development

Dear Ms. Rice,

Please accept these preliminary scoping comments for the Great Mooses Tooth Two Development (“GMT-2”) Supplemental Environmental Impact Statement (“SEIS”). BLM has rightly recognized the need to prepare an SEIS. As described below, the 2004 Alpine EIS is badly out-of-date in light of new science, new developments and proposals on the North Slope, the 2013 National Petroleum Reserve-Alaska Integrated Activity Plan (“IAP”),² new mitigation policies, and changes to the proposed project itself. An agency is required to prepare an SEIS when (1) “[t]he agency makes substantial changes in the proposed action that are relevant to environmental concerns” or (2) there are “significant new circumstances [and] information relevant to environmental concerns and bearing on the proposed action or its impacts.”³ The substantial changes to the project and significant new circumstances and information all warrant preparation of an SEIS.

The lack of a detailed project description presented a serious challenge to providing constructive scoping comments on this proposed development. Outside of the brief Federal Register Notice and the short document provided by BLM, the public was provided with very little information detailing specifics of where and how GMT-2 is proposed to be constructed. While we very much appreciate the 30-day scoping comment period extension, more specific information would have greatly benefited this process.

In preparing the SEIS, BLM should fully re-evaluate the proposed project in light of the project changes and significant new information and circumstances. We see this process as an opportunity to ensure that all applicable science and traditional and local knowledge is taken into

¹ Letter prepared with assistance from Trustees for Alaska.

² BLM, National Petroleum Reserve-Alaska Final Integrated Activity Plan/Environmental Impact Statement (Dec. 2012), *available at*: <https://www.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage¤tPageId=14702>.

³ 40 C.F.R. § 1502.9(c).

consideration, changes since the 2004 analysis are thoroughly analyzed, best management practices and lease stipulations from the 2013 IAP Record of Decision (“ROD”) are implemented, and thoughtful and effective mitigation actions are taken using the National Petroleum Reserve-Alaska’s regional mitigation strategy (“RMS”).

The National Petroleum Reserve-Alaska (“Reserve” or “NPR-A”) is home to many of our nation’s Arctic treasures, including two large caribou herds, globally significant migratory bird populations, polar bears, extraordinary lakes, ponds, rivers, floodplains, wetlands, and upland areas, and sensitive coastal resources. These values are central to the subsistence livelihood of Alaska Natives and our nation’s conservation heritage. The Reserve is governed in part by the Naval Petroleum Reserves Production Act (“NPRPA”), which provides a dual mandate to both protect the Reserve’s extraordinary subsistence, recreational, fish, wildlife, historical, and scenic values and to explore and develop oil and gas resources for the energy needs of the nation. BLM must consider both of these mandates in carrying out this SEIS.

The proposed GMT-2 oil development project will now be the second commercial oil development on federal lands⁴ within the NPR-A following the February 2016 approval of the Greater Mooses Tooth One (GMT-1) project, and following the completion of the 2013 IAP and the lease stipulations included within the ROD. As you know, the 2013 IAP provided for five Special Areas critical for wildlife habitat and subsistence, while opening up roughly 11.8 million acres of the Reserve to oil and gas leasing. The close proximity of the proposed oil development project to the Teshekpuk Lake and Colville River Special Areas is of particular concern. BLM should consider alternatives and mitigation measures that avoid, minimize, and compensate for impacts from proximate development to these Special Areas. Alternatives should also be comprehensive and consider all available means of infrastructure development, including, but not limited to, a truly roadless option.

In this letter we discuss: (1) the issues that BLM should address in this SEIS, and (2) the NPR-A’s RMS and how it should be implemented to offset unavoidable impacts.

Part I: Issues the SEIS Should Address

The draft SEIS should thoroughly evaluate the proposed project to consider how oil and gas infrastructure in the Reserve will impact sensitive ecosystems, wildlife and subsistence, and to address alternatives and potential mitigation measures. As described below, it should assess a full suite of alternatives including a seasonal roadless alternative, cumulative impacts, new science and information about the project area, climate change effects likely to be caused by the proposed project and the effects of climate change on the project (i.e., permafrost loss, river and

⁴ CD-5 production is situated within the boundaries of the NPR-A on land owned by Kuukpik Corporation, the village corporation of Nuiqsut, with mineral rights owned largely by Arctic Slope Regional Corporation. Additionally, it is important to note that the location of the proposed GMT-2 pad is located on Native corporation selected lands currently owned and managed by the federal government.

stream flooding and erosion), pipeline operations including crossings, road and aviation impacts, impacts to fish-bearing water bodies, subsistence, and health considerations.

Geographic Scope of the Project and Analysis

The SEIS needs to carefully evaluate the proper geographic scope of the study to adequately consider direct, indirect, and cumulative impacts of the project. This is important in the context of the decisions made in the 2013 IAP, especially related to the limits on infrastructure and leasing. Future developments in the Greater Mooses Tooth Unit and other nearby units will be in close proximity, or could even be within, the Colville River and Teshekpuk Lake Special Areas. The conservation and subsistence values of these Special Areas require maximum protection.

Additionally, developments inside and outside the Reserve — e.g., CD-5 and GMT-1 in the Reserve, the nearby proposed Nanushuk project outside the Reserve, and Caelus’ activities in Smith Bay — also need to be considered to fully address cumulative impacts.

[See Also- Part II: Regional Mitigation Strategy, Landscape-Scale Approach]

Alternatives

Alternatives analysis is the “heart of the environmental impact statement” and BLM should consider a broad range of alternatives for GMT-2.⁵

In crafting alternatives, BLM should maintain a broad vision of how development in the Reserve should be structured to protect sensitive areas and minimize the project’s footprint. This vision should consider: winter season only drilling which eliminates the need for a gravel road, the use of directional drilling to minimize the number and size of pads, locating infrastructure to avoid the most sensitive areas, minimizing the impacts of aviation on subsistence activities and resources, and the feasibility of roadless development not only for GMT-2 but for the Reserve as a whole.

We encourage BLM to analyze a roadless alternative that provides for seasonal drilling, similar to what takes place at CD-3, so that a full range of alternatives is analyzed in the GMT-2 SEIS. Development that avoids drilling during the snow-free months would mitigate industrial disturbance impacts on nesting birds, caribou fall migration, and summer/fall subsistence activities during these critical times. It also would reduce well blowout risks to open water in wetlands and floodplains. Automatic shut-off valve requirements for the pipeline, as well as effective leak detection, would greatly reduce the need for a road to address potential pipeline spills.

⁵ 40 C.F.R. § 1502.14.

Drill rigs for a seasonal drilling alternative potentially can be shared in the non-drilling months with ConocoPhillips at GMT-1 or with another operator (e.g., Armstrong Energy on state lands) to greatly reduce operator costs (similar to what was done when constructing the roadless drillpad CD-3). Seasonal drilling should be considered an environmentally preferred alternative and analyzed as possibilities for all other alternatives.

We also encourage BLM to incorporate minimal aircraft operations into all alternatives, including the use of low-impact drones where possible instead of helicopters and fixed-wing aircraft, e.g., for pipeline inspections and aerial studies.

If BLM considers a roadless design with year-round operations, it should analyze that alternative separately from the seasonal roadless alternative. Year-round drilling activity is likely to involve additional infrastructure, increased impacts from flights, more noise and pollution and other impacts that would not necessarily be present for a seasonal roadless alternative.

BLM should fully evaluate the positive and negative trade-offs of the different alternatives such as road vs. aircraft disturbances including mitigating aviation impacts to the maximum extent, habitat fragmentation and other road impacts on wildlife, gravel acquisition and transport impacts from roads, water impacts from ice roads, enhanced leak detection and automatic valve shut-offs reducing the need for roads in pipeline spill response, etc. BLM should also consider if there are different configurations for a seasonal roadless alternative that might reduce the footprint and overall impacts of the alternative.

BLM should also consider climate change in depth and as part of the alternatives analysis. In addition to quantifying the potential contribution of the project and different alternatives to climate change and black carbon emissions in the Arctic, BLM should also provide a robust analysis of how climate change might impact the proposed project and alternatives. Climate change can “make a resource, ecosystem, human community, or structure more susceptible to many types of impacts.”⁶ This could have the effect of decreasing a project’s “resilience to other environmental impacts apart from climate change” or exacerbating the effects of the proposal.⁷

Recent guidance from the Council on Environmental Quality (CEQ) indicates that “[c]limate change effects on the environment and on the proposed project should be considered in the analysis of a project considered vulnerable to the effects of climate change such as increasing sea level, drought, high intensity precipitation events, increased fire risk, or ecological change.”⁸ The analysis of climate change “should focus on those aspects of the human environment that are impacted by both the proposed action and climate change.”⁹ BLM should analyze the potential impacts of climate change on each of the alternatives to determine how that alternative should be designed or how mitigation measures should be incorporated into that alternative to address the potential impacts from climate change in a region that is experiencing the effects of climate

⁶ Memorandum from Christina Goldfuss, CEQ, re: Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews 21 (Aug. 1, 2016).

⁷ *Id.*

⁸ *Id.* at 24.

⁹ *Id.* at 21.

change first-hand. BLM has tools, such as the Rapid Ecoregional Assessment for the North Slope, that it should use to forecast potential changes to the alternatives and region.

CEQ also directs agencies to take into consideration the potential impacts of climate change on vulnerable communities, including the potential for disproportionate impacts, when designing actions and selecting among alternatives.¹⁰ Nuiqsut is already experiencing a wide range of impacts from climate change, including more extreme weather patterns, changes to the landscape from impacts like thawing permafrost, and impacts to subsistence resources.¹¹ The GMT-2 project is likely to have significant adverse impacts to subsistence use. The GMT-2 project will exacerbate the adverse impacts to food security from climate change that are already being felt by the community.¹² BLM needs to take these impacts into consideration when creating and choosing between alternatives.

Cumulative Impacts

The previous planning processes for ConocoPhillips's Alpine developments did not adequately address cumulative impacts or take into account changes to the GMT-2 project or region that have occurred over the past 12 years. The need to fully consider these impacts in the present process is important to all stakeholders and required by law.

The cumulative impacts analysis needs to recognize that the village of Nuiqsut is increasingly surrounded by industrial development, limiting the village's subsistence access and habitat more and more over time. Each new development diminishes Nuiqsut residents' subsistence opportunities. Every incremental loss of subsistence use area and habitat near Nuiqsut should be seen as more harmful than equally sized previous losses (all else being equal) as these resources become increasingly scarce.

Additionally, BLM should review and incorporate relevant aspects of the National Research Council's study¹³ on cumulative impacts, including:

- the need for comprehensive planning across the North Slope to guide industrial development and plan for eventual abandonment of facilities;
- providing for restoration and rehabilitation of affected areas;
- the need for research on zones of influence of industrial activities and their impacts on wildlife;
- air quality research and monitoring;
- human health impacts; and
- consequences of water withdrawals on fish and the effects of lake water withdrawals on invertebrates that provide food supplies for vertebrates, and
- the effects to the landscape for the life of the project's impacts.

¹⁰ *Id.* at 24.

¹¹ ANTHC Ctr. for Climate & Health, *Climate Change in Nuiqsut, Alaska: Strategies for Community Health* (2014).

¹² *See, e.g., id.* at 5, 21, 23–30.

¹³ National Research Council. *Cumulative Environmental Effects of Oil and Gas Activities on Alaska's North Slope*. Washington, DC: The National Academies Press, 2003. doi:10.17226/10639. Available here: <https://www.nap.edu/read/10639/chapter/1>.

Moreover, BLM must fully consider the impacts of CD-5 as the project was ultimately permitted because it differed from the configuration proposed in the Alpine EIS. BLM also should consider other developments and discoveries that have or likely will take place within the region. The IAP identified other potential commercial discoveries, including the larger reservoir system “Spark-Rendezvous” which covers an extensive area crossing Fish Creek and is within the GMT Unit. Furthermore, the IAP shows that a number of wells have been drilled in both the GMT Unit (Lookout 1, Spark 1A, Carbon 1, and Moose Tooth C) and Bear Tooth Unit (Scout 1) that have not yet been plugged and abandoned. State of Alaska maps show the GMT Unit and Bear Tooth Units within the NPR-A boundary and note that ConocoPhillips announced an oil discovery within the Bear Tooth Unit at the Cassin 1 well drilled along with another well in 2013 but released no other details.

BLM also needs to include in its cumulative impacts analysis Armstrong Energy LLC’s proposed Nanushuk project to the east of the Reserve, currently undergoing EIS development.¹⁴ This major oil production project, which will include new roads, pipelines and a Central Processing Facility, will be located 6.5 miles from Nuiqsut at the southernmost location of the project.

In addition, there are other projects that the BLM must consider, including the Kuukpik spur road from Nuiqsut, the development of Fiord West, and the continuing and increased exploration activities within the NPR-A at the Greater Mooses Tooth and Bear Tooth Units, and within the state waters of Smith Bay. BLM must also consider the reasonably foreseeable expansion of the facilities and fill quantity at Alpine, as well as cumulative impacts from increased road and air traffic from the resulting increase in activities. Between 1998 and 2011, the permit for the Alpine Central Processing Facility was modified 27 times and the quantity of fill increased from 98.4 acres to approximately 118 - nearly a 20% increase. It is reasonably foreseeable based on the history of the Alpine permit that additional fill and disturbances in the highly sensitive Colville River Delta will result from the connection of GMT-1, GMT-2, and other facilities to Alpine.

In sum, BLM must evaluate all associated impacts from the GMT-2 proposal as well as all reasonably foreseeable future developments that will contribute to the overall cumulative effects of oil exploration and development within the region.

Scientific Evaluations

As BLM recognizes, a large amount of new information has become available since the 2004 Alpine EIS.¹⁵ Consistent with the requirements of the National Environmental Policy Act and the 2013 ROD, the SEIS must evaluate ConocoPhillips’s proposed project in light of this new information. The GMT-2 SEIS should analyze monitoring data on impacts from the full life of the Alpine oil field and CD-5 operations to date.

¹⁴ See: <http://www.nanushukeis.com/projects/nanushukeis/projectdescription.html>.

¹⁵ See: Fed. Reg. Doc. 2016-17962 (July 29, 2016) (Notice of Intent to prepare SEIS).

The 2013 IAP ROD anticipated the need for baseline studies as well as monitoring for projects within the Reserve. Specifically, the ROD states: “Project proponents shall be responsible for funding baseline studies to provide BLM decision-makers with sufficient information to make informed decisions on a project or series of projects.”¹⁶ Further, the 2013 IAP reads: “Project proponents shall be responsible for funding monitoring, by private or government parties, to assess the effectiveness of project designs and required mitigations in protecting resources.”¹⁷ BLM should determine what baseline studies have been completed and ensure that these data are available for public and peer review.

GMT-2 will have a number of ecological and environmental impacts to habitat and wildlife that need to be considered. Full consideration will require analysis of adequate pre-project baseline studies as well as monitoring over the life of the project. Impacts should be evaluated using BMP E-12 from the 2013 IAP ROD which states: “Use ecological mapping as a tool to assess wildlife habitat before development of permanent facilities, to conserve important habitat types during development.” This may include habitat or resource selection modeling, population viability analyses, disturbance modeling and movement/path analyses, such as those analyses conducted by Wilson et al. 2012¹⁸ and Wilson et al. 2013.¹⁹ The NPR-A Decision Support Tool published by Audubon Alaska, which summarizes wildlife values by lease tract or leasing scenario, should be consulted prior to development to assess potential impacts.²⁰

Polar Bear Critical Habitat

The polar bear’s designation as a threatened species made clear the impacts of diminishing sea ice habitat on this species. Management of human actions in the Arctic needs to be conservative and precautionary in order to maintain the polar bear population as close to intact as possible and provide the population with an opportunity to adapt to diminishing sea ice habitat. Although diminished reproduction and recruitment will likely be the first impacts of sea ice habitat loss, the longevity (>20 years) of individual bears may work in favor of conservation if some bears can persist through population bottlenecks and contribute toward rebuilding future populations.

There are approximately 1,250 acres of polar bear critical denning habitat within the GMT Unit.²¹ These dens could be disturbed by human activities. Loss of bears could also occur from “Defense of Life and Property” takes. Permanent loss of undisturbed habitat suitable for denning and alteration of movements between denning sites and sea ice feeding areas could also have impacts. GMT-2 should be developed in a way that avoids these losses and impacts.

¹⁶ 2013 National Petroleum Reserve-Alaska Integrated Activity Plan, Record of Decision, page 6.

¹⁷ *Id.* at 7.

¹⁸ Wilson, R.R., A.K. Prichard, L.S. Parrett, B.T. Person, G.M. Carroll, M.A. Smith, C.L. Rea, and D.A. Yokel. 2012. Summer resource selection and identification of important habitat prior to industrial development for the Teshekpuk caribou herd in northern Alaska. *PLoS One* 7(11): 1-14.

¹⁹ Wilson, R. R., J. Liebezeit, W.M. Loya. 2013. Accounting for uncertainty in oil and gas development impacts to wildlife in Alaska. *Conservation Letters*. DOI: 10.1111/ conl.12016.

²⁰ See Walker, N., M. Smith, and R. Wilson. 2012. A Decision-Support Tool for the National Petroleum Reserve - Alaska. Audubon Alaska: Anchorage.

²¹ *Id.*, see also U.S. Fish and Wildlife Service. 2009. Polar Bear Critical Habitat. GIS dataset. Accessed online at <http://www.fws.gov/alaska/fisheries/mmm/polarbear/esa.htm>.

BLM should evaluate the proposed development in relation to the Polar Bear Critical Habitat designated by the U.S. Fish and Wildlife Service to ensure that the alignment of roads, pipelines, and sighting of drilling pads does not pose a significant threat to polar bear denning sites or likely routes of travel along the coastline.

Because denning sites may vary seasonally, a robust monitoring program should be required to assess polar bear denning activity. The development plan should be adaptable so that impacts can be avoided during periods of high denning activity.

Caribou Habitat

An analysis of Teshekpuk Caribou Herd habitat use on the Reserve's coastal plain near Teshekpuk Lake revealed that high-value habitats caribou select during calving and insect relief during two critical life stages, are concentrated within the areas north and southeast of Teshekpuk Lake within the Reserve.²² The GMT Unit contains approximately 5% of the high-value Teshekpuk Caribou Herd calving grounds; 4% each of the high-value post-calving, fly season, and late summer habitat; and 3% of the high-value non-calving caribou habitat.²³ BLM should evaluate the potential impacts of the proposed development on caribou calving habitat using methods similar to or more advanced than those used in the analysis described by Wilson et al. 2013. In addition, development impacts on caribou should be considered during other seasons. The Teshekpuk Caribou Herd is the only herd in which the majority of animals overwinter on the Arctic coastal plain, leaving them in contact with industrial activities during the busy winter season.²⁴ The body mass of caribou after winter can have a strong influence on factors like calving success, making it important to ensure that industrial activities during the winter season do not place an undue burden on resident caribou.

BLM should consider direct impacts associated with existing and proposed roads, pads, pipelines, and indirect disturbance associated with industrial activity (including road and aerial traffic, drilling, industrial noise and gravel mining) to caribou during development and post-development operations that occur throughout the year.

Consideration of caribou migratory pathways from collared animals using this area (including those from other Arctic herds), observations from subsistence hunters in Nuiqsut and other traditional knowledge holders, and recent scientific studies of caribou response to infrastructure²⁵ should be considered in evaluating the impacts of infrastructure and development activities and in making recommendations for the least impactful of the proposed pipeline/potential road alignments.

²² Wilson, R.R., A.K. Prichard, L.S. Parrett, B.T. Person, G.M. Carroll, M.A. Smith, C.L. Rea, and D.A. Yokel. 2012. Summer resource selection and identification of important habitat prior to industrial development for the Teshekpuk caribou herd in northern Alaska. *PLoS One*. 7(11): 1-14.

²³ *Id.*, Walker, N., M. Smith, and R. Wilson. 2012. A Decision-Support Tool for the National Petroleum Reserve - Alaska. Audubon Alaska: Anchorage.

²⁴ Person, B.T., Pichard, A.K., Carroll, G.M., Yokel, D.A., Suydam, R.S., and George, J.C. 2007. Distribution and movements of the Teshekpuk caribou herd 1990-2005: Prior to oil and gas development. *Arctic*. 60: 238-250.

²⁵ Wilson, R.R., L.S. Parrett, K. Joly, J.R. Dau. 2016. Effects of roads on individual caribou movements during migration. *Biological Conservation* 195: 2-8.

To protect caribou, GMT-2 must be permitted in accordance with the restrictions in BMP E-7 of the 2013 ROD, including the 7-foot minimum pipeline height, the 500-foot setback between (potential) roads and pipelines, and the requirement to bury pipelines where they may impede movement. The impacts of failure to conform to the minimal standard set by BMP E-7 should be fully evaluated.

Bird Species of Concern

The GMT Unit is within the Colville River Delta, which is considered a continentally significant Important Bird Area based on breeding spectacled eiders and yellow-billed loons. An estimated 296 yellow-billed loons nest in this Important Bird Area along with 92 nesting spectacled eiders.²⁶ Several bird species nesting in the vicinity of the GMT Unit are declining or vulnerable based on information in Audubon Alaska's Watch List.²⁷ These include brant, king eider, red-throated loon, Steller's eider, spectacled eider, and yellow-billed loon.²⁸ The GMT Unit is also within the known concentrated breeding areas for king eider, greater white-fronted goose, long-tailed duck, and various shorebird species.²⁹ Precaution should be taken to protect nesting areas for these species of concern. Adequate pre-construction baseline surveys for pairs and nesting surveys is also necessary.

Impacts to spectacled eiders and Steller's eiders must be evaluated in collaboration with the United States Fish and Wildlife Service (USFWS) in accordance with BMP E-17³⁰ and BMP E-18.³¹ Yellow-billed loons should be treated with similarly protective stipulations.

²⁶ See Alpine FEIS.

²⁷ Kirchhoff, M., 2010. Alaska Watch List: Highlighting Declining and Vulnerable Bird Species in Alaska. Audubon Alaska, Anchorage, AK.

²⁸ Larned, W.W., R.S. Stehn, and R.M. Platte. 2010. Waterfowl Breeding Population Survey, Arctic Coastal Plain, Alaska 2010. USFWS: Anchorage; AK; Smith, M.A. 2010. Arctic Marine Synthesis: Atlas of the Chukchi and Beaufort Seas. Audubon Alaska and Oceana: Anchorage; Walker, N., M. Smith, and R. Wilson. 2012. A Decision-Support Tool for the National Petroleum Reserve - Alaska. Audubon Alaska: Anchorage.

²⁹ Audubon Alaska. 2002. Alaska's Western Arctic: A Summary and Synthesis of Resources. J. Schoen and S. Senner, editors. Anchorage, AK; Smith, M.A. 2010. Arctic Marine Synthesis: Atlas of the Chukchi and Beaufort Seas. Audubon Alaska and Oceana: Anchorage.

³⁰ BMP E-17 states, "With the exception of pipelines, no (a) permanent oil and gas facilities, (b) material sites, or (c) staging areas that would occupy land through more than one winter season will be permitted in spectacled eider nesting and breeding habitat identified by the USFWS as being "high" density (>1.06 eiders per square mile) using the best available long-term data from the Annual Eider breeding Survey at the time development is proposed."

³¹ BMP E-18 states, "Ground-level activity (by vehicle or on foot) within 200 meters of occupied Steller's and/or spectacled eider nests, from June 1 through August 15, will be restricted to existing thoroughfares, such as pads and roads. Construction of permanent facilities, placement of fill, alteration of habitat, and introduction of high noise levels within 200 meters of occupied Steller's and/or spectacled eider nests will be prohibited. In instances where summer (June 1 through August 15) support/construction activity must occur off existing thoroughfares, USFWS-approved nest surveys must be conducted during mid-June prior to the approval of the activity. Collected data will be used to evaluate whether the action could occur based on employment of a 200-meter buffer around nests or if the activity would be delayed until after mid-August once ducklings are mobile and have left the nest site. The BLM will also work with the USFWS to schedule oil spill response training in riverine, marine, and inter-tidal areas that occurs within 200 meters of shore outside sensitive nesting/brood-rearing periods or conduct nest surveys. The protocol and timing of nest surveys for Steller's and/or spectacled eiders will be determined in cooperation with the

Lands with Wilderness Character

The BLM should thoroughly analyze GMT-2 for its impacts to lands with wilderness character. Lands with wilderness character are increasingly rare national assets and any loss should be quantified within the SEIS. These lands also largely enable subsistence practices and help to ensure abundant subsistence resources in the region.

Congress recognized the significance of wilderness values in the NPR-A in the 1976 Naval Petroleum Reserves Production Act when Congress directed the Department of the Interior to analyze these values in the 105(C) Values and Resources Study.³² Virtually all of the NPR-A was found to be suitable wilderness when the study was completed in 1979. While the NPR-A is exempt from Section 603, the wilderness study provision of the Federal Land Policy and Management Act (FLPMA), BLM still has the authority and obligation to incorporate lands with wilderness characteristics into agency planning and management of the NPR-A. BLM has done so in past planning efforts, such as with the development of the 2004 NPR-A Northwest Integrated Activity Plan / Environmental Impact Statement, when BLM analyzed and considered possible wilderness recommendations in the alternatives developed for the plan. More recently, in the Reserve's 2013 IAP, BLM acknowledged the NPR-A's wilderness values when the agency adopted and incorporated the wilderness inventory from the Department of the Interior's 105(C) Study. These planning actions exemplify BLM's responsibility to recognize these important lands within the NPR-A.

Section 201 of FLPMA also requires the BLM to maintain on a continuing basis an inventory of all public lands and their resources and other values, including lands with wilderness characteristics.³³ IM 2011-154 and Manuals 6310 and 6320 contain mandatory guidance on implementing that requirement. The IM directs BLM to "conduct and maintain inventories regarding the presence or absence of wilderness characteristics, and to consider identified lands with wilderness characteristics in land use plans and when analyzing projects under [NEPA]" (emphasis added). Manual 6310 requires BLM to consider whether to update or conduct a wilderness characteristics inventory when a project that may impact wilderness characteristics is undergoing NEPA analysis.³⁴

BLM should include analysis of impacts to lands with wilderness character as part of this SEIS. Without doing so, documentation of the full extent of the project's impacts is incomplete. Additionally, maintaining an accurate inventory of lands with wilderness characteristics will be important to establish baseline conditions, as required by NEPA³⁵, and necessary for future permitting processes.

USFWS, and must be approved by the USFWS. Surveys should be supervised by biologists who have previous experience with Steller's and/or spectacled eider nest surveys.

³² U.S. Department of the Interior. National Petroleum Reserve-Alaska 105(C) Values and Resources Study, 1979.

³³ See: *Ore. Natural Desert Ass'n v. BLM*, 625 F.3d 1092, 1122 (9th Cir. 2008) (holding that "wilderness characteristics are among the values the FLPMA specifically assigns to the BLM to manage in land use plans).

³⁴ BLM Manual 6310 at .06(A)(4).

³⁵ The National Environmental Policy Act, 42 U.S.C. § 4321 et seq., requires agencies to "describe the environment of the areas to be affected or created by the alternatives under consideration." See 40 C.F.R. § 1502.15. Also, in *Half*

It is vital for BLM to include consideration of impacts to wilderness lands and values as part of the SEIS in order to ensure that the agency has adequate baseline information for its NEPA analysis and for evaluating the need for potential compensatory mitigation actions. As future developments proceed in the NPR-A, BLM should update its inventory of lands with wilderness characteristics, analyze potential impacts to these lands, and avoid and minimize those impacts. Where impacts to lands with wilderness characteristics are not avoided, compensatory offsets for the loss of those wilderness characteristics should be required.

Protection of Aquatic Ecosystems

A number of issues relating to rivers, streams and ponds must be assessed in the SEIS. These include the implications of locating any infrastructure adjacent to fish-bearing water bodies, the impacts of water withdrawals from water bodies, and the need for better baseline information about fish and critical fish habitat. While recent research has made significant progress to monitor hydrology^{36,37,38, 39} and fish species^{40,41,42} within aquatic ecosystems, exploration and development activities still pose a serious threat to aquatic ecosystems.

Stream Crossings and Setbacks

The 2013 IAP's best management practice (BMP) K-1 is designed to protect riparian areas in the Reserve.⁴³ BMP K-1 prohibits oil and gas facilities, including roads and pipelines within certain setback areas along rivers. It allows for limited exceptions on a case-by-case basis to allow "essential pipeline and road crossings to the main channel" of river bodies. BLM also needs to

Moon Bay Fisherman's Marketing Ass'n v. Carlucci, 857 F.2d 505, 510 (9th Cir. 1988), the Ninth Circuit states that "without establishing . . . baseline conditions . . . there is simply no way to determine what effect [an action] will have on the environment, and consequently, no way to comply with NEPA." The court further held that "[t]he concept of a baseline against which to compare predictions of the effects of the proposed action and reasonable alternatives is critical to the NEPA process."

³⁶ Whitman, M., C. Arp, B. Jones, W. Morris, G. Grosse, F. Urban, and R. Kemnitz. 2011. Developing a long-term aquatic monitoring network in a complex watershed of the Alaskan Arctic Coastal Plain. Pages 15-20 in C. N. Medley, G. Patterson, and M. J. Parker, editors. *Proceedings of the Fourth Interagency Conference on Research in Watersheds: Observing, Studying, and Managing for Change*. USGS, Reston. Arp, C. D., M. S. Whitman, B. M. Jones, R. Kemnitz, G. Grosse, and F. E. Urban. 2012.

³⁷ Drainage network structure and hydrologic behavior of three lake-rich watersheds on the Arctic Coastal Plain, Alaska. *Arctic, Antarctic, and Alpine Research* 44(4): 385-398.

³⁸ Arp, C. D., M. S. Whitman, B. M. Jones, G. Grosse, B. V. Gaglioti, and K. C. Heim. 2015. Distribution and biophysical processes of beaded streams of Arctic permafrost landscapes. *Biogeosciences* 12: 1-19.

³⁹ Jones, B. M., A. Gusmeroli, C. D. Arp, T. Strozzi, G. Grosse, B. V. Gaglioti, and M. S. Whitman. 2013.

Classification of freshwater ice conditions on the Alaskan Arctic Coastal Plain using ground penetrating radar and TerraSAR-X satellite data. *International Journal of Remote Sensing* 34(23): 8253-8265.

⁴⁰ Heim, K. C., M. S. Wipfli, M. S. Whitman, C. D. Arp, J. Adams, and J. A. Falke. 2015. Environmental cues of Arctic grayling seasonal movement in a small Arctic stream: the importance of surface water connectivity. *Environmental Biology of Fishes* DOI 10.1007/s10641-015-0453-x.

⁴¹ McFarland, J. 2015. Trophic pathways supporting Arctic Grayling in a small stream on the Arctic Coastal Plain, Alaska. M.S. Thesis. University of Alaska Fairbanks, Fairbanks, AK.

⁴² Heim, KC, Wipfli, MS, Whitman, MS, Seitz, AC. 2015. Body size and condition influence migration timing of juvenile arctic grayling. *Ecology of Freshwater Fishes*. Doi:10.111/eff.12199.

⁴³ See 2013 ROD at 73 (Stipulation K-1).

consider the effect of topography within a watershed, as pipeline spills in certain locations could migrate into rivers.

BLM should consider the 100 and 200-year floodplain and adequate hydrological information, as well as past and future flooding issues related to the existing Alpine facilities in the Colville River delta. It is insufficient to rely on a 50-year floodplain analysis, as increased flooding has been taking place. Adequate baseline hydrological information for all rivers and streams that would be crossed by the project needs to be provided.

Moreover, and as mentioned above, the lack of a detailed project description presents serious challenges to our ability to provide constructive scoping comments. However, from the maps provided to us by BLM to inform these comments, it appears that the proposed GMT-2 road and pipeline will be located in an area that straddles the Ublutuoch River and Judy Creek watersheds. While this location was presumably selected for its upland features, this design requires a thorough analysis. By placing infrastructure in this area the aquatic function of two systems could be impacted. Additionally, in the case of a potential spill, this alignment could impact two drainages. The cumulative risks and benefits of siting infrastructure in this location should be thoroughly evaluated.

Water Withdrawals

Continued withdrawal of water from lakes or rivers without consideration of overall impacts could harm scarce over-wintering fish habitat.⁴⁴ The locations and quantities of all water withdrawals by water body, both for ice roads, as well as water sources needed for drilling, water flooding, camp operations, and all other uses during the entire time of production need to be provided and alternatives considered. BLM should strictly enforce the withdrawal limits established in the 2013 ROD's BMP B-2,⁴⁵ and provide adequate monitoring to ensure that these limits are sufficiently protective to protect fish, invertebrates, and important aquatic habitats.

Winter Dissolved Oxygen Concentrations in Tundra Ponds

Current water use permits issued from the Alaska Department of Natural Resources Division of Mining Land and Water are restricted based upon general categories of water withdrawal sensitivity (non-sensitive, sensitive) for fish present and the liquid water volume available under ice. While this provides some level of protection, it does not take into account the potential

⁴⁴ Cott, P. A., Sibley, P. K., Gordon, A. M., Bodaly, R.A., Mills, K. H., Somers, W. M. and Fillatre, G. A. (2008), Effects of Water Withdrawal From Ice-Covered Lakes on Oxygen, Temperature, and Fish1. JAWRA Journal of the American Water Resources Association, 44: 328–342.

⁴⁵ BMP B-2 states, "... a. Lakes with sensitive fish (i.e., any fish except ninespine stickleback or Alaska blackfish): unfrozen water available for withdrawal is limited to 15% of calculated volume deeper than 7 feet; only ice aggregate may be removed from lakes that are ≤7-feet deep.

b. Lakes with only non-sensitive fish (i.e., ninespine stickleback or Alaska blackfish): unfrozen water available for withdrawal is limited to 30% of calculated volume deeper than 5 feet; only ice aggregate may be removed from lakes that are ≤5.

c. Lakes with no fish present, regardless of depth: water available for use is limited to 35% of total lake volume.

d. In lakes where unfrozen water and ice aggregate are both removed, the total use shall not exceed the respective 15%, 30%, or 35% volume calculations. ..."

spatial heterogeneity of winter dissolved oxygen (DO) levels in individual tundra ponds, which has been recently documented in Alaska⁴⁶ and likely driven by a combination of lake level attributes and landscape factors.⁴⁷

Adequate under-ice DO concentrations are an important water quality parameter that affects fish respiration, growth and survival. Researchers have found that many freshwater fish require DO levels between 4 and 6 mg/l⁴⁸ with lethal levels potentially occurring below 2 mg/l.⁴⁹ Recent research in the Northwest Territories, Canada has documented that water withdrawal of 20% under ice volume in small (<30 ha.) tundra pond affects oxygen concentrations beyond natural fluctuations.⁵⁰ Due to difficulties in conducting water quality measurements in winter, winter DO concentrations have only been measured sporadically across the NPR-A and limited information is known about the spatial variability. Additionally, individual fish species have different oxygen requirements and in order to provide suitable overwintering habitat a species specific-oxygen requirement should be determined and implemented for sensitive fish in the region. The impacts of GMT-2 water withdrawals on DO concentrations should be fully considered.

Seasonal Movement of Fish

Tundra ponds in the Arctic cover up to 40% of the landscape⁵¹ and are a critically important landscape feature providing summer feeding and overwintering habitat for numerous Arctic fish. Also important are the approximately 120 km of anadromous fish streams within the GMT Unit.⁵² Extreme conditions in the Arctic have forced fish to develop seasonal migration strategies where individuals will travel hundreds of kilometers between ponds, streams, and rivers, to meet their caloric demand and to find suitable spawning and overwintering habitat.⁵³ Deeper seasonally connected tundra ponds that do not freeze to the bed surface (floating-ice tundra

⁴⁶ Clilverd, H., White, D., and Lilly, M. 2009. Chemical and Physical Controls on the Oxygen Regime of Ice-Covered Arctic Lakes and Reservoirs. *JAWRA Journal of the American Water Resources Association* 45: 500–511.

⁴⁷ Leppi, J.C., Arp, C.D. & Whitman, M.S. 2016. Predicting Late Winter Dissolved Oxygen Levels in Arctic Lakes Using Morphology and Landscape Metrics. *Environmental Management* 57: 463.

⁴⁸ Davis, J. 1975. Minimal dissolved oxygen requirements of aquatic life with emphasis on Canadian species: a review. *Journal of the Fisheries Board of Canada*.

⁴⁹ Doudoroff, D. and Shumway, D. L. 1970. Dissolved Oxygen Requirements of Freshwater Fishes. *FAO Fisheries Technical Paper No. 86*. Food and Agricultural Organization of the United Nations.

⁵⁰ Cott, P.A., Sibley, P.K., Gordon, A.M., Bodaly, R.A.D., Mills, K.H., Somers, W.M., Fillatre, G.A., and Peter, A. 2008. Effects of water withdrawal from ice-covered lakes on oxygen, temperature and fish. 44: 328–342.

⁵¹ Grosse, G., B. Jones, C. Arp. 8.21 Thermokarst Lakes, Drainage, and Drained Basins, Edited by John F. Shroder, *Treatise on Geomorphology*, Academic Press, San Diego, 2013, Pages 325-353.

⁵² Alaska Department of Fish and Game. 2011. Anadromous Waters Catalog. GIS dataset. Accessed online at <http://www.adfg.alaska.gov/sf/SARR/AWC/index.cfm?ADFG=data.GIS>; Walker, N., M. Smith, and R. Wilson. 2012. A Decision-Support Tool for the National Petroleum Reserve - Alaska. Audubon Alaska: Anchorage.

⁵³ Morris, W. 2006. Seasonal movement and habitat use by Broad Whitefish (*Coregonus nasus*) in the Teshekpuk Lake region of the national petroleum reserve- Alaska. 2003-2005. http://www.adfg.alaska.gov/static/home/library/pdfs/habitat/06_04.pdf; Moulton, L.L., Morris, W.A., and Bacon, J. 2007. Surveys of fish habitat in the Teshekpuk Lakes region, 2003-2005. Final Report December 2007. http://www.adfg.alaska.gov/static/home/library/pdfs/habitat/tesh_fish_2003_2005.pdf.

pond) provide potential winter habitat for fish,⁵⁴ but may also serve as water sources for municipal and industrial applications.⁵⁵ During the spring, much of the Arctic coastal plain becomes flooded, allowing fish to access a variety of productive habitats.⁵⁶ Thus, the identification of important pathways and seasonal habitat (i.e., spawning, rearing, and overwintering habitat) for migratory fish is crucial information that needs to be collected and considered prior to development.

Current knowledge on Arctic fish life histories is limited, but recent research shows that fish use a variety of habitats, across a large geographic range, to complete their life cycles.⁵⁷ Development of gravel and ice roads has the potential to fragment important fish habitat by creating barriers that inhibit fish from making seasonal migrations. Because maintaining natural seasonal flow patterns across the landscape is essential for fish survival, the impacts on fish migration of any roads associated with GMT-2 should be fully considered.

Timing and Accuracy of Fish Surveys

Fish use a variety of aquatic habitat types within the region for feeding, spawning, and overwintering. Ponds deeper than 1.6 meters with seasonal connection to streams provide foraging areas as well as overwintering habitat for numerous fish species; however, these locations are generally limited within the region. Delta and off channel habitat also provide important rearing areas for juvenile fish species; and riverine habitat provides migratory pathways that allow species to move across the landscape during different seasons. While there have been studies documenting summer fish presence across habitats,⁵⁸ there has been relatively little research that identifies fish presence during the fall, winter, and spring.⁵⁹ Exploration and development has the potential to impact aquatic habitat during critical life cycle stages. As a result, it is important to conduct fish presence surveys in habitat seasonally used *prior* to permitting. Since fish may migrate across the landscape using different habitat types to forage, spawn and overwinter, summer fish surveys may not provide a complete understanding of habitat use.

⁵⁴ Arp, C., Whitman, M., Jones, B. (2012) Drainage Network Structure and Hydrologic Behavior of Three Lake-Rich Watersheds on the Arctic Coastal Plain, Alaska. *Arctic, Antarctic, and Alpine Research*. 44, 385–398.

⁵⁵ Brewer, M.C. 1958. The thermal regime of an arctic lake. *EOS Trans. AGU*, 39, 278; Jones, B., Arp, C., and Hinkel, K. 2009. Arctic lake physical processes and regimes with implications for winter water availability and management in the National Petroleum Reserve Alaska. *Environmental Management* 43: 1071–84.

⁵⁶ Morris, W. 2006. Seasonal movement and habitat use by Broad Whitefish (*Coregonus nasus*) in the Teshekpuk Lake region of the national petroleum reserve- Alaska. 2003-2005.
http://www.adfg.alaska.gov/static/home/library/pdfs/habitat/06_04.pdf.

⁵⁷ *Id.*, Morris, W. 2003. Seasonal movement and habitat use of Arctic grayling (*Thymallus arcticus*), burbot (*Lota Lota*), and broad whitefish (*Coregonus Nasus*) within the fish creek drainage of the National Petroleum Reserve-Alaska, 2001-2002. http://www.adfg.alaska.gov/static/home/library/pdfs/habitat/03_02.pdf.

⁵⁸ Moulton, L.L., Morris, W.A., and Bacon, J. 2007. Surveys of fish habitat in the Teshekpuk Lakes region, 2003-2005. Final Report December 2007.
http://www.adfg.alaska.gov/static/home/library/pdfs/habitat/tesh_fish_2003_2005.pdf

⁵⁹ Morris, W. 2006. Seasonal movement and habitat use by Broad Whitefish (*Coregonus nasus*) in the Teshekpuk Lake region of the national petroleum reserve- Alaska. 2003-2005.
http://www.adfg.alaska.gov/static/home/library/pdfs/habitat/06_04.pdf.

Additionally, recent research has shown that fish detection probability is influenced by species, gear type and site specific variables (i.e. lake depth, day of sample, lake connection).⁶⁰ While certain species such as least cisco and nine spine stickleback had high detection probability, other species more sensitive to water withdrawal (e.g. Arctic grayling, slimy sculpin) had low detection probabilities.⁶¹ This finding is important because it suggests that previous research methods may be inadequate to detect certain species. As a result, it is necessary to use new techniques such as eDNA monitoring to identify fish presence.

Other Research Needs Relating to Arctic Fish

Other biological considerations pertaining to fish that need to be addressed in the SEIS include the following:

- Where do fish overwinter in the development area? What are the landscape and environmental factors that influence winter dissolved oxygen levels in tundra ponds and rivers, and thus determine fish overwintering habitat? How will the proposed large water withdrawals impact DO levels?
- What are the seasonal movements of fish in the proposed development and what are the implications of gravel and ice roads on this seasonal movement?
- Will the proposed development influence the surface hydrology and ultimately seasonal fish movement?

Subsistence

Impacts to subsistence resources and access to these resources must be fully considered in the SEIS. It is important that the NPR-A Subsistence Advisory Panel and affected subsistence communities have adequate consultation meetings and meaningful consultation processes, plain language summary materials, maps, and technical resources necessary prior to requests for formal comment, and throughout the SEIS and permitting process. All materials should also be made available online in readily downloadable sizes.

Specifically, the SEIS should quantify the loss of subsistence use areas and the development's impacts on subsistence resources within the region. All stakeholders and decision makers should be aware of how subsistence resources, use areas, and practices will be impacted by GMT-2.

Roads

In the 2013 IAP, BLM assumed that roads would only accompany in-field pipelines and not transmission lines connecting units to other units. Because of the proposed project's westward expansion into the Reserve, it should be evaluated for roadless development, with no permanent

⁶⁰ Haynes, T.B., Rosenberger, A.E., Lindberg, M.S., Whitman, M. & Schmutz, J.A. 2013. Method-and species-specific detection probabilities of fish occupancy in Arctic Lakes: implications for design and management. Can J. Fish Aquat. Sci. 70. 1055-1062.

⁶¹ *Id.*

road connection to GMT-1 and CD-5. Elements that need to be considered when weighing the environmental and social impacts of road vs. no-road development include but are not limited to:

- disturbance caused by roads (particularly those alongside pipelines which may have an increased effect on wildlife as compared to pipelines alone) and bridges vs. air traffic to caribou migration, fish and wildlife species, habitat fragmentation, noise, hydrology, permafrost and other natural elements of the landscape;
- impacts of roads (particularly those alongside pipelines) and bridges vs. aircraft to subsistence hunting, fishing, and other traditional uses and community access to resources;
- spill and leak detection capabilities and response to releases;
- impacts of gravel mining, transport and permanent placement to lands, waters and habitats;
- impacts to tundra plants including species diversity and permafrost from off-road tundra travel during both winter and summer; and
- impacts of water withdrawals on lands, waters, and habitats.

We recognize that lack of a road could increase air traffic, and BLM should also analyze potential negative impacts associated with any increased flights and also whether air traffic can be reduced using less-impactful drones and overland travel for short distances.

Vehicle Traffic

Information provided by BLM indicates that there will be approximately 229,200 total vehicle trips for this project. In year 1 alone, there will be at least 256 trips per day on average. A comprehensive analysis of all impacts, including but not limited to vehicle traffic patterns and animal crossings, noise, dust, and subsistence practices, should be evaluated within the SEIS. The cumulative effects of all industry-related vehicle traffic within the region should also be quantified within this analysis. Additionally, BLM should analyze whether any reductions in proposed vehicle trips are possible.

Human Health

When examining the impacts of proposed and existing oil development within the region, we encourage BLM to approach health and the meaning of health in a comprehensive way. BLM should follow the definition of the World Health Organization which describes health as: “A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.”⁶² Such an approach will help BLM capture and analyze impacts in a more meaningful and constructive manner.

⁶² Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19-22 June, 1946; signed on 22 July 1946 by the representatives of 61 States (Official Records of the World Health Organization, no. 2, p. 100) and entered into force on 7 April 1948. Special Note: The Definition has not been amended since 1948.

Gaps in Previous Environmental Analyses on Greater Mooses Tooth Unit & Project Changes

An EIS must be a “detailed” statement,⁶³ and an agency must provide a “site-specific” analysis of a project prior to making an irrevocable commitment of resources.⁶⁴ BLM has yet to provide a full, site-specific analysis of this project. The Alpine FEIS failed to provide a site-specific analysis of this project and there have been numerous changes to the proposal since it was analyzed in 2004. The current planning process should remedy the deficiencies in the previous planning process for ConocoPhillips’s Alpine Satellites, including the following:

- The Alpine FEIS lacked data on a variety of subjects,⁶⁵ relying instead on future studies to provide information.⁶⁶
- The Draft and Final EISs did not discuss site-specific impacts relating to proposed developments throughout the heterogeneous 890,000-acre area examined. The FEIS lacked text or maps relating, at a meaningful scale, the exact location of project components and resources.⁶⁷ Further, the FEIS indicated that the locations of project components could change at the time of construction.⁶⁸
- The Draft and Final EISs assumed that project design features would mitigate certain impacts without actually requiring this to take place, and without an analysis of impacts that could occur if mitigation measures were not implemented.⁶⁹ For example, the DEIS stated that only local residents and industry workers would use the roads.⁷⁰ If it is not possible to enforce such a restriction, then the impacts from other uses of the roads should have been analyzed.
- There was insufficient consideration of the potential for cumulative long-term impacts arising from repetitive short-term impacts.⁷¹ The FEIS’s cumulative impacts discussion

⁶³ 42 U.S.C. § 4332.

⁶⁴ See, e.g., *N. Alaska Envtl. Ctr. v. Kempthorne*, 457 F.3d 969, 976 (9th Cir. 2006).

⁶⁵ See, e.g., Alpine FEIS at 173 (ice-jamming), 175 (sediment transfer processes in the Colville River), 203 (sensitive plant species), 448 (hydrology data for the Colville River), and 460 (culvert placement and design) 1295 (cumulative impacts on subsistence); Response to Comment WR-41 at 1646 (final design of culverts for CD-6 and CD-7 “will be based on ice break-up information for those drainages along with a topographic survey” not included in the FEIS).

⁶⁶ See, e.g., Alpine FEIS at 104 (later inspections to establish routes), 448 (reliance on State “scour” to be developed later), 481 (recommending studies prior to withdrawals of water from lakes to detect adverse impacts), 481 (additional hydrological data studies recommended), 543 (recommending that CPAI perform fish surveys and hydrologic modeling for water bodies at proposed culvert sites), and 1086 (further “geotechnical investigations” suggested), 1086 (further data gathering recommended to address navigation and fish habitat concerns in the Colville River delta).

⁶⁷ For example, notes to the Project Sheets accompanying the Corps permit application at Appendix L indicate that the depicted ice road routes might vary plus or minus a mile in location. See Appendix L at Sheets 63-69.

⁶⁸ See, e.g., Alpine FEIS at 1385 (Response to Comment LA-II) (“Small changes in pad locations may be required by the permit process”).

⁶⁹ Alpine FEIS at 368-69.

⁷⁰ Alpine DEIS at 2-3, 2-4.

⁷¹ The Alpine DEIS often asserts that an impact would not last long, and also that it would not be significant, without defining what it means when it uses these terms in the pertinent context or setting of a specific site. See, e.g., Alpine DEIS, p. 4A.2-48 (referring to noise impacts and claiming that they “would be temporary and would not be expected to be significant.”).

did not provide an analysis of how past and present projects, and differences between those projects, may have impacted the environment.⁷² Nor did it seriously discuss climate change (referring to it as a subject of “ongoing debate”).⁷³ The recommendations of the National Research Council’s landmark study, *Cumulative Environmental Effects of Oil and Gas Activities on Alaska’s North Slope*, were not fully integrated into the 2004 FEIS.⁷⁴

- The FEIS did not identify key wetlands and key wetland types on a facility-specific and site-specific basis, making it impossible to determine if the project components would be built in key wetlands or in key wetland types.
- While the FEIS discussed water quality and waterways in disparate sections, it did not tie these discussions to the regulatory requirements of the Clean Water Act (making it difficult for the reader to discern whether the proposal complied with the Act).
- The FEIS lacked meaningful analysis on the impacts of mining gravel from the Clover Gravel site located in the Colville River Special Area (an area that requires maximum protection of its surface values).⁷⁵
- The FEIS failed to adequately consider the restrictions in the 1998 NE NPRA ROD’s Stipulation 48 regarding permanent roads and BLM’s ROD provided an exemption to this stipulation at ConocoPhillips’ request. There was no cost-benefit analysis of having a roadless development.⁷⁶

It is also insufficient for BLM to tier to more recent environmental analyses in the region for the purpose of analyzing GMT-2 and its impacts. The materials BLM provided on the proposed GMT-2 project imply that the GMT-2 project was analyzed in 2012 and 2014 as part of the GMT-1 SEIS and IAP EIS processes. However, in analyzing the GMT-1 project, BLM only analyzed GMT-2 as conceptual and as part of the cumulative impacts analysis since there was no application for GMT-2 at the time and the exact location was not yet determined.⁷⁷ The IAP EIS also provided almost no discussion of GMT-2.

⁷² BLM indicated that data was lacking to address some of these issues. *See* Alpine FEIS at 1295, 1457 (Response to Comment FG-3).

⁷³ Alpine FEIS at 1253.

⁷⁴ The FEIS only analyzed the pre-publication copy, NRC (National Research Council). 2003. *Cumulative Environmental Effects of Oil and Gas Activities on Alaska’s North Slope*. Prepublication Copy. The National Academic Press, Washington, D.C.

⁷⁵ *See* Alpine FEIS at 650, 653, 661, 760, 761, 766, 1019, 1025, 1215, 1220, and 1222.

⁷⁶ The Cost Estimate in Appendix J of the Final EIS consisted of nothing more than two pages summarizing costs likely to be incurred by ConocoPhillips in construction, drilling, operations, maintenance, and abandonment. There was no attempt to quantify the costs of impacts on the environment, wildlife, and subsistence.

⁷⁷ 1 Final Supplemental Environmental Impact Statement for the Alpine Satellite Development Plan for the Proposed Greater Mooses Tooth One Development Project 1 (2014) (“There is no application for development of GMT2; accordingly, information on GMT2 is conceptual and is considered only in the cumulative analysis.”); *id.* at 497 (“As described above, development of GMT2 hydrocarbon resources is a reasonably foreseeable action, although the exact location and parameters of development are still under study. For the purpose of this SEIS, a conceptual GMT2 development project is used for analysis, based on descriptions from BLM (2004) and BLM (2012).”).

ConocoPhillips' proposed project is much larger than originally contemplated in the 2004 Alpine FEIS. The size of the pad has increased over 50%, from 9.1 acres to 14 acres, and the number of wells has more than doubled — increasing from 20 wells in 2004 to a maximum of 48 wells in ConocoPhillips' current proposal. This is in addition to increases in the road and pipe lengths, and changes to the location of the pad itself. For all intents and purposes, this is a wholly different project than previously contemplated by BLM. These changes are significant and will dramatically increase the amount of industrial activity occurring in the area. This project is also likely to have far greater adverse impacts to subsistence resources, wildlife, habitat, and other values in the Reserve than previously considered by BLM. BLM needs to provide a detailed, site-specific analysis that takes into account the full range of direct, indirect, and cumulative impacts of a project of this scale.

ANILCA Section 810

Title VIII of ANILCA recognizes that subsistence uses are a public interest and provides a framework to consider and protect subsistence uses in agency decision making processes.⁷⁸ As the Supreme Court explained:

[t]he purpose of ANILCA § 810 is to protect Alaskan subsistence resources from unnecessary destruction. Section 810 does not prohibit all federal land use actions which would adversely affect subsistence resources but sets forth a procedure through which such effects must be considered and provides that actions which would significantly restrict subsistence uses can only be undertaken if they are necessary and if the adverse effects are minimized.⁷⁹

Thus, ANILCA § 810 imposes a two-tiered process to evaluate a project's impacts on subsistence uses. First, the federal agency:

[i]n determining whether to withdraw, reserve, lease, or otherwise permit the use, occupancy, or disposition of public lands . . . shall evaluate the effect of such use, occupancy, or disposition on subsistence uses and needs, the availability of other lands for the purposes sought to be achieved, and other alternatives which would reduce or eliminate the use, occupancy, or disposition of public lands needed for subsistence purposes.⁸⁰

This initial finding is referred to as the “tier-1” determination,⁸¹ and requires the agency to consider the cumulative impacts in making the determination.⁸²

⁷⁸ 16 U.S.C. §§ 3111–3126.

⁷⁹ *Amoco Production Co. v. Village of Gambell, Alaska*, 480 U.S. 531, 544 (1987).

⁸⁰ ANILCA § 810(a), 16 U.S.C. § 3120(a).

⁸¹ *Hanlon v. Barton*, 470 F. Supp. 1446, 1448 (D. Alaska 1988)

⁸² *Sierra Club v. Penfold*, 664 F. Supp 1299, 1310 (D. Alaska 1897), *aff'd*, *Sierra Club v. Penfold*, 857 F.2d 1307 (9th Cir. 1988).

If the agency, after conducting the tier-1 analysis, determines that the activity will not “significantly restrict subsistence uses,”⁸³ then the agency issues a Finding of No Significant Restriction (FONSR) and the requirements of ANILCA § 810 are satisfied. However, if the agency makes the initial determination that the action would “significantly restrict subsistence uses,” the agency must then make conduct a “tier-2” analysis.⁸⁴ Under tier-2, the agency must determine that any restriction on subsistence is necessary, involves the minimal amount of public lands necessary to accomplish the purpose of the use, occupancy or disposition of public lands, and takes steps to minimize the adverse impacts to subsistence uses and resources.⁸⁵ Thus, as the Ninth Circuit explained, ANILCA § 810 imposes procedural requirements as well as substantive restrictions on the agency’s decisions.⁸⁶

In authorizing GMT-1, BLM recognized that project would significantly restrict subsistence uses for the village of Nuiqsut. The GMT-2 project as proposed will not only in itself significantly restrict subsistence use, but will further compound the significant adverse impacts to subsistence users already being felt from existing developments. In its alternatives analysis, BLM should provide a thorough discussion of whether the alternatives do, in fact, involve the minimal amount of public lands necessary to accomplish the purpose of the use. BLM should also provide a thorough analysis of what steps it anticipates taking to minimize the adverse impacts to subsistence uses and resources.

Part II: NPR-A Regional Mitigation Strategy

The BLM is currently working to complete a regional mitigation strategy (RMS or Strategy) for the northeast region of the NPR-A. This is an important complementary document to the GMT-2 NEPA process as it will inform how best to offset the unavoidable impacts of the proposed project. The RMS is also important in that it will provide greater certainty and predictability to industry by clearly identifying mitigation-related responsibilities upfront.

While the RMS is still unfinished, and short of finishing the RMS prior to moving forward with the GMT-2 SEIS development, which we would prefer, we encourage BLM to prepare the SEIS based on the principles and goals of the Strategy so that it can be operationalized upon its completion within the GMT-2 NEPA process and Record of Decision. As alternatives and associated unavoidable impacts for the proposed project are determined, we recommend that they are coupled with the necessary mitigation actions that will effectively offset impacts in a durable and additional manner. Below we offer a series of considerations that BLM should incorporate as the GMT-2 NEPA processes moves forward.

National Mitigation Policy

The BLM must ensure that the GMT-2 SEIS is consistent with Department of the Interior mitigation policies and guidance, and informed by the NPR-A’s RMS. Since 2013, the

⁸³ 16 U.S.C. § 3120(a).

⁸⁴ *Kunaknana v. Clark*, 742 F.2d 1145, 1151 (9th Cir. 1984); *Hanlon*, 470 F. Supp. at 1448.

⁸⁵ 16 U.S.C. § 3120(a)(1)–(3).

⁸⁶ *Sierra Club v. Marsh*, 872 F.2d 497, 502–03 (9th Cir. 1989).

Department of the Interior has been actively advancing mitigation policies across the nation's land management agencies. In addition to mitigation requirements under FLPMA and other laws, numerous other policies direct the BLM to require mitigation and specify how mitigation should be employed to protect conservation and subsistence values. Among others, these documents include: Secretarial Order 3330: Improving Mitigation Policies and Practices of the Department of the Interior (2013), BLM's Draft Regional Mitigation Manual (2013), A Strategy for Improving the Mitigation Policies and Practices of the Department of the Interior (2014), Presidential Memorandum: Mitigating Impacts on Natural Resources from Development and Encouraging Related Private Investment (2015), and the Department of the Interior's Landscape-Scale Mitigation Manual (2015).

Clearly and effectively introducing the RMS within the draft SEIS is a crucial element for this document's success. Within the forthcoming draft, we suggest that BLM incorporate a comprehensive explanation of the Strategy's overarching objectives and include the goals of national mitigation policy. We also encourage BLM to include an explanation for how the RMS can help achieve the five primary tenets of Secretarial Order 3330, largely the catalyst and foundation for the nation's new mitigation policies. These tenets are:

- (1) The use of a landscape-scale approach to identify and facilitate investment in key conservation priorities in the region;
- (2) Early integration of mitigation considerations in project planning and design;
- (3) Ensuring the durability of mitigation measures over time;
- (4) Ensuring transparency and consistency in mitigation decisions; and
- (5) A focus on mitigation efforts that improve the resilience of our Nation's resources in the face of climate change.⁸⁷

Given the significant adverse effects to subsistence uses and resources, as well as other values, that are likely to result from the proposed project and its unavoidable impacts, it is vital that BLM incorporate a robust discussion of potential offsite mitigation measures into its alternatives analysis. While BLM has yet to finalize the RMS, BLM should use the RMS to inform its analysis and prioritization of various compensatory mitigation measures to address unavoidable impacts. It is crucial that BLM analyze a range of alternatives to any compensatory mitigation⁸⁸ measures proposed by ConocoPhillips. BLM should also provide an in-depth discussion of various aspects of the compensatory mitigation, including its feasibility, the potential effectiveness of the proposed mitigation and how it will mitigate various types of impacts, how the mitigation could be implemented or enforced, and any other expected outcomes of the mitigation.⁸⁹ BLM should also discuss in the SEIS how the project and its impacts will be monitored and adjusted over time, both to address effectiveness of the compensatory mitigation measures and to account for things like climate change.

⁸⁷ See: Secretarial Order 3330: Improving Mitigation Policies and Practices of the Department of the Interior, October 31, 2013. Available at: <http://on.doi.gov/1SgmXf>.

⁸⁸ Note that compensatory mitigation is different and distinct from direct impact minimization, which some also refer to (incorrectly) as "mitigation."

⁸⁹ See generally Mitigation Manual 1-15 (discussing how BLM should incorporate its analysis of mitigation measures into its NEPA process).

Under Section 302 of FLPMA and as echoed in BLM’s Draft Regional Mitigation Manual, “BLM may not authorize a proposed use that would result in unnecessary or undue degradation onsite even if mitigation conducted outside the area of impact could potentially reduce the impacts of that proposed use.”⁹⁰ If ConocoPhillips “cannot adequately mitigate impacts from the project, and the BLM is, therefore, unable to achieve its resource and value objectives, then the BLM may deny the land-use authorization in the decision document.”⁹¹

Greater Mooses Tooth One (GMT-1)

Explaining the connections between the Greater Mooses Tooth One (GMT-1) ROD and the RMS would be another beneficial component of the GMT-2 SEIS. We encourage BLM to elaborate on this feature of the document and to explain the unique circumstances of having received the commitment of compensatory mitigation funds before the completion of the final RMS document - a portion of which allowed for the development of the RMS. BLM also should outline how, once received, the GMT-1 funds will be put into action through the completed Strategy. A clear and effective description of these circumstances may help reduce confusion around how compensatory mitigation funds will be used to offset the impacts of GMT-1, GMT-2, and any other potential future projects in the region.⁹²

Mitigation Actions

Central to the above-mentioned policies are strategies to use a landscape-level approach to identify and facilitate investment in key conservation priorities, integrate compensatory mitigation considerations in project planning and design early on, and ensure durability of mitigation actions.

These mitigation directives also support the need for incorporating monitoring and adaptive management throughout a mitigation strategy to inform current and future NEPA actions. Any actions identified within the SEIS and RMS should also be considered through the lens of climate change and its impacts. Management efforts will need to be reevaluated and adapted to ensure that any compensatory mitigation measures remain meaningful and protective over time and as conditions change in the Western Arctic.

Compensatory mitigation actions the BLM should prioritize within this NEPA process to ensure for durable, additional, and long-term solutions for balanced management include:

- **Special Area Management Plans:** BLM should utilize compensatory mitigation funds to complete a formal management plan for the Teshekpuk Lake Special Area and update and strengthen the Colville River Special Area management plan. These plans would be consistent with the IAP and include management prescriptions and goals, clarify what uses are or are not allowed in each area, and include adaptive management measures in

⁹⁰ Draft Regional Mitigation, Manual Section 1794 (2014) [hereinafter Mitigation Manual]; 43 U.S.C. § 1732(b).

⁹¹ Mitigation Manual at 1-8.

⁹² See: Supplemental Environmental Impact Statement for the Alpine Satellite Development Plan for the Proposed Greater Mooses Tooth One Development Project, Record of Decision, February 2015, Page 38-39.

order to protect the special resources and values of each area. Management plans for the Teshekpuk Lake and Colville River Special Areas will enhance the stewardship of the landscapes and resources, and ensure these critical areas are adequately protected from the adverse effects of oil and gas development. The IAP re-established the purpose of the Special Area designations to mean a combination of being open or closed to leasing and/or permanent non-subsistence infrastructure. However, stressors are on the rise in Special Areas due to climate change and oil and gas exploration and development activities, including ice road access, work camps, seismic testing, and more. Management Plans would allow BLM to address adverse impacts of authorization decisions to ensure decisions are consistent with the purposes of each special area.

- Conservation Easements: Conservation easements can effectively offset significant, unavoidable impacts from development. These easements should last the life of the impacts of the project and be held by a third-party to ensure their durability. BLM's 2013 IAP took a large-scale approach to planning, and identified important values within Special Areas and river buffers, and these areas should be the first places easements are used to solidify and ensure meaningful protections. BLM should also look broadly at protecting key subsistence areas and migratory paths with these tools to ensure that ecological functions are preserved on a landscape-level scale and that protections are broad enough to offset the impacts to subsistence users and migratory species such as caribou. Conservation easements could be used to ensure that key subsistence areas, such as Fish Creek, are protected through the use of more durable instruments. Durable conservation easements have the potential to protect traditional and cultural-use areas and the fish and wildlife resources they support so communities can access and benefit from those areas for generations to come.
 - Compensatory Mitigation "Pools": To effectively offset the impacts of development through conservation easements, BLM should create compensatory mitigation pools using the Teshekpuk Lake and Colville River Special Areas. These areas have already been identified for their high conservation and subsistence values. These pools can be operationalized in two potential ways. One way is to incrementally apply protective easements to these tracts as development moves forward over time. Another way, which is more in line with the Department of the Interior's Mitigation Manual, would be for an easement to be applied to the whole tract upfront. Then, like a traditional wetlands bank, compensatory mitigation credits could be purchased by the developer and applied to the area covered by the easement. Compensatory mitigation pools have the benefit of capturing landscape-level processes, while also streamlining mitigation expectations.
- Lease Buybacks: Lands of high conservation and subsistence values have already been leased near the community of Nuiqsut, within the Colville River and Teshekpuk Lake Special Areas, and within caribou migratory corridors. Mitigation funds can be used to buyback these leases to allow some or all ecosystem functions to remain or return, as well as to guarantee public access and customary and traditional use access.

Achieving the Mitigation Hierarchy at the Project and Landscape-Level

Since 2013, and as mentioned above, the Department of the Interior has been actively advancing mitigation policies across the nation's land management agencies. A focus of these efforts has been the Department of the Interior and the BLM's use of the "mitigation hierarchy". This framework offers a constructive way to manage multiple values while allowing projects to be developed in the right places and in the right way.

Informed by the 2013 IAP and the RMS, avoidance, minimization, and compensatory mitigation should be employed at both the project and landscape-level within GMT-2's SEIS. As mentioned above, national policy requires BLM to take a landscape-level approach in determining impacts and appropriate offsets. Many of the values of the NPR-A, such as migratory subsistence resources like fish and caribou, require a healthy and functioning landscape to complete their life cycles. This systems approach will inform potential compensatory mitigation actions within the region so that conservation and subsistence values are ensured at all scales.

Use of compensatory mitigation should be considered, for example, as a result of the GMT-2 project not being able to meet the requirement that pipelines be located at least 500 feet from a road to ensure greater caribou crossing success. As discussed in Section 2.5.4.1 of ConocoPhillips proposed project, there are four sections of the pipeline that do not meet this requirement, totaling 2.7 miles of the 8.6 miles long pipeline. This design is contrary to Lease stipulation E-2 which requires a 500-foot setback from waterbodies and BMP E-7(c) which requires a minimum separation distance of 500 feet between pipelines and roads.

Ensuring Lasting Mitigation Decisions

As GMT-1 moves forward and GMT-2's NEPA process begins, efforts should be made to analyze and balance management decisions over time so all tiers of the mitigation hierarchy are considered and employed in a meaningful way. Commercial oil development will have impacts on the landscape potentially for 100 years, and maybe forever. However, avoidance of high value conservation and subsistence areas is only ensured for the life of the 2013 IAP (~15 years) and can easily be compromised.⁹³ BLM's draft Regional Mitigation Manual states that "BLM should ensure that mitigation conducted outside the area of impact will, at a minimum, be effective for as long as the land-use authorization affects the resources and values."⁹⁴ Compensatory actions, such as the funding and use of conservation easements, can help to ensure the durable avoidance of important areas for an equal amount of time as projects' impacts. This SEIS should consider ways to ensure that any compensatory mitigation actions last for the life of the impact they are supposed to mitigate.

⁹³ The three-mile Fish Creek setback, an identified avoidance area, was compromised by the GMT-1 development.

⁹⁴ Mitigation Manual at 1-11.

Understanding and Determining Adverse Impacts

Within the SEIS we encourage BLM to clearly define and explain its conclusions as to the values, the severity and type of impacts, and how specific impact findings are determined. While describing values and resources that are impacted by development within the SEIS is necessary, knowing how impacts to these resources are quantified, and potentially compensated for, is also an essential component for successful mitigation. This type of analysis and description should be included within the draft SEIS.

Additionally, many values that were impacted by GMT-1 have complex meanings and warrant more thorough descriptions and analysis. For example, subsistence, socio-cultural systems, and environmental justice, the three complex values that were determined to be impacted in major, unavoidable, and adverse ways by GMT-1, should be more thoroughly defined. Greater clarity on these and other terms, and the features that enable their meaning, would help to better inform an analysis of the effects of development on social and ecological systems.

It is BLM's responsibility to protect the resources and surface values of the Reserve, including subsistence resources and uses, against adverse impacts from oil and gas development. BLM should also thoroughly explain its reasoning when categorizing impacts to specific resources, whether BLM is categorizing them as minor or negligible or as significant. For example, in the case of GMT-1, noise was determined to have minor impacts. With extremely limited information on this impact, it is unclear how this determination was made. Within the draft SEIS we encourage BLM to provide a thorough rationale and thresholds for why certain values are marginalized and not found to warrant compensatory mitigation action.

Scarce resources, resources on the decline, or a sensitive or vulnerable resource may require compensatory mitigation. As recognized in BLM's Draft Regional Mitigation Manual, "[s]ome resources, values, and/or areas can be viewed as having higher value than others and may make a land-use authorization's impacts unacceptable."⁹⁵ BLM should weigh the degree to which a resource or value is impacted and determine the relative importance of the impacted resources, looking to factors such as the legal or policy status of the resource, the value placed on the resource in the land use plan, the rarity of the resource, and the resilience of the resource, particularly in light of changing conditions and impacts.⁹⁶ Just because a resource is not in a compromised state does not mean that it should not require compensatory actions that can assist in its protection and sustained abundance on the landscape. In fact, it is conceivable that thoughtful compensatory mitigation actions can help many resources from becoming compromised in the first place. Knowing the uncertainties of climate change and not fully understanding the true impacts of development, BLM should also use compensatory mitigation actions to proactively manage the landscape for the maintenance of healthy natural resources.

Conclusion

⁹⁵ *Id.*

⁹⁶ *Id.* at 1-10 to 1-11.

While GMT-1 has been approved, this project has yet to be constructed and operated. As a result, the full effects of this development on the region's ecosystem and residents have yet to be realized. GMT-2, now the second proposed commercial oil development on federal lands in the NPR-A, will likely have a significant compounding effect on the ecological and social systems of the region. These circumstances greatly increase the importance and need for a thoughtful and thorough SEIS.

As we have outlined over the course of this letter, we encourage BLM to comprehensively analyze GMT-2's potential impacts on air and water quality, wetlands and floodplains, fish and wildlife, species listed under the Endangered Species Act, habitat, subsistence, cultural and historic values, and human health. Once unavoidable impacts are identified, we encourage BLM to use the RMS to integrate constructive mitigation considerations into project planning and design. From here, these impacts should be meaningfully and durably offset with effective compensatory mitigation actions.

Thank you for considering these initial scoping comments. Please let us know if you have any questions.

Sincerely,

Nicole Whittington-Evans
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The Wilderness Society

On behalf of:

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